Georgia State University
ScholarWorks @ Georgia State University

Social Work Faculty Publications | School of Social Work

2018

Do transgender men have equal access to health care and engagement in preventive health behaviors compared to cisgender adults?

Kristie L. Seelman
Georgia State University, kseelman@gsu.edu

Jordan F. Miller
Georgia State University, jmiller115@gsu.edu

Zoe E. R. Fawcett
Georgia State University, zfawcett1@student.gsu.edu

Logan Cline
Georgia State University, lcline4@student.gsu.edu

Follow this and additional works at: https://scholarworks.gsu.edu/ssw_facpub

Part of the Gender and Sexuality Commons, and the Social Work Commons

Recommended Citation
Seelman, Kristie L.; Miller, Jordan F.; Fawcett, Zoe E. R.; and Cline, Logan, "Do transgender men have equal access to health care and engagement in preventive health behaviors compared to cisgender adults?" (2018). *Social Work Faculty Publications*. 83.
https://scholarworks.gsu.edu/ssw_facpub/83

This Article is brought to you for free and open access by the School of Social Work at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Social Work Faculty Publications by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

Do Transgender Men Have Equal Rates of Health Care Access and Engagement in Preventive Health Behaviors as Cisgender Adults?

Kristie L. Seelman, Jordan F. Miller, Zoe E. R. Fawcett, and Logan Cline

Georgia State University

[This is a copy of the Author's Original Manuscript prior to peer review; the final version of this paper is in press with *Social Work in Health Care*.]

Author Note

Kristie L. Seelman, School of Social Work, Georgia State University; Jordan F. Miller, Department of Sociology, Georgia State University; Zoe E. R. Fawcett, Department of Sociology, Georgia State University; Logan Cline, Department of Sociology, Georgia State University.

Correspondence concerning this article should be addressed to Kristie Seelman, Georgia State University, School of Social Work, PO Box 3992, Atlanta, GA 30302-3992. E-mail: kseelman@gsu.edu

Abstract

Based on data from the 2015 Behavioral Risk Factor Surveillance System, this study looks at whether transgender men have the same rates of health care access and engagement in preventive health behaviors as cisgender adults in the U.S. and whether race/ethnicity, socioeconomic status, and rural residence moderate these relationships. While there are some differences for transgender men, these differences no longer reach statistical significance after controlling for other sociodemographic factors. Rural residence and having less education are significant moderators for some models related to health care access and preventive health. We detail implications for social workers within health care settings.

Keywords: transgender men; FTM; health care access; preventive health; rural

Best estimates suggest that approximately 0.6% of the U.S. adult population, or about 1.4 million adults, identifies as transgender (Flores, Herman, Gates, & Brown, 2016). Although a burgeoning body of research has documented the barriers to adequate health care as well as health disparities faced by transgender individuals, little empirical research has specifically studied transgender men—those who were assigned a female sex at birth and currently identify as male or as being on the masculine spectrum (MacCarthy, Reisner, Nunn, Perez-Brumer and Operatrio, 2014). Responding to the call for more population-specific studies on transgender health (Graham et al., 2011), the current study aims to examine whether access to health care and engagement in preventive health behaviors differ for transgender men (also known as female-to-male, or FTM) individuals compared to cisgender (non-transgender) adults. Our hope is that comparing transgender men's health care access and preventive health behaviors to cisgender adults will help social workers and other health care providers understand the unique barriers faced by transgender men that can impact their health disparities. Before detailing the current study, we will first review the literature related to transgender men's health, barriers to health care access, and engagement in preventive health behaviors, as well as identify critical gaps in knowledge.

Literature Review

Health Disparities Impacting Transgender Men

Partially due to barriers to adequate health care as well as internal and external stigma connected to one's gender identity and expression, transgender people face increased rates of psychological distress and other mental health problems compared to cisgender adults (Bockting, Knudson, & Goldberg, 2006; Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; James et al., 2016; Kosenko, Rintamaki, Raney, & Maness, 2013). According to the 2015 U.S.

Transgender Survey, the largest national trans survey to date (*N* = 27,715), 39% of respondents reported serious psychological distress in the month preceding the survey, compared to 5% of the general U.S. population (James et al., 2016). Gender dysphoria often exists concurrently with other mental health concerns, such as anxiety, depression, low self-esteem, somatization, internalized transphobia, suicidality, and self-harm (Bockting, Robinson, Benner, & Scheltema, 2004; Bocking et al., 2006; 2013; Clements-Nolle, Marx, & Katz, 2006; Gehi & Arkles, 2007; Grant, Mottet, Tanis, Harrison, Herman, & Keisling, 2011; James et al., 2016; Kattari & Hasche, 2015; Reisner, White, Bradford, & Mimiaga, 2014). In the U.S. Transgender Survey, 40% of participants had attempted suicide in their lifetime, including a rate of 45% among trans men, compared to a typical rate of 4.6% in the general population (James et al., 2016).

Consistent with minority stress models, transgender men may experience increased levels of stress due to issues of concealment or disclosure of their identity (Bockting et al. 2013). Trans men may also experience challenges with body image as related to hegemonically masculine gendered expectations. For example, due to a potential desire to be more muscular, to cease menstruation, or for body fat to be distributed away from their hips and chest, FTM individuals might excessively exercise or attempt to be underweight (Bockting et al. 2006). Because of the norms and expectations of many gay male communities, trans men who are attracted to other men (a specific subpopulation of men who have sex with men, or *MSM*), are a vulnerable population for developing eating disorders (Bockting et al. 2006; Scheim et al. 2016). Transgender men who have not had top surgery may bind their chest to create a flatter, more masculine-sculpted appearance. Negative health outcomes of binding can include chronic pain, overheating, dizziness, problems breathing, fractured ribs, skin excess, changes in bone structure, and heartburn (Gehi & Arkles 2007; Peitzmeier, Gardner, Weinand, Corbet, & Acevedo, 2016).

Although there is less research about disparities in physical health conditions among trans men compared to cisgender adults, FTM individuals in one study reported lower quality of life than the general population and were found to have decreased physical health compared to cisgender men but not compared to cisgender women (Newfield, Hart, Dibble, & Kohler, 2006). Health problems can occur in part due to discrimination occurring within sex-segregated spaces, such as restrooms, locker rooms, jails or prisons, and homeless shelters (Factor & Rothblum 2008; Gehi & Arkles 2007; Grant et al. 2011; James et al. 2016). Many trans people may avoid restrooms that are not designated gender neutral due to fear of discrimination (James et al., 2016; West, 2010; zamantakis, Miller, & Chace, 2017). Avoiding bathrooms can lead to physical health issues, such as urinary tract infections or dehydration (Herman, 2013; James et al., 2016).

Barriers to Care

Trans men's health disparities are tied to the greater difficulty in accessing health care compared to the general population (Bradford, Reisner, Honnold, & Xavier, 2013; Lombardi, 2009). As health care is sometimes medically necessary for transgender individuals who wish to medically transition, equal access to quality health care is a critical issue. However, gaining access to health care can be difficult for transgender adults, with notable barriers to care including widespread stigma and discrimination, lower likelihood of having health insurance, and a lack of transgender-specific expertise in medical care. Transgender-related medical needs are often not covered by insurance (American Medical Association, 2008; Fredriksen-Goldsen et al., 2013). As an illustration, in an internet-based convenience sample of 464 trans men (Bockting et al., 2013), 32.5% reported difficulties receiving health services. Furthermore, 5% of transgender men reported difficulty accessing HIV prevention services, compared to 2.2% of transgender women (Bockting at al., 2013). Similarly, in a study that included 131 transgender

participants, 13.8% of transgender people did not have insurance, while this was true of only 5.8% of cisgender people (Conron, Scott, Stowell, & Landers, 2012).

Medicaid is a critical public health insurance program for adults who are low-income and do not otherwise have access to health care. Research suggests that a greater proportion of transgender adults (28.8%) rely on Medicare or Medicaid compared to 13.8% of cisgender adults (Conron et al., 2012). However, 14 states have explicit laws that deny coverage for transition care through Medicaid, and states that do not have explicit laws often deny coverage for such services, stating that the care is "experimental" or "cosmetic" (Gehi & Arkles, 2007; MAP, 2017). In short, transgender people are less likely than the cisgender people to have insurance (though there has been little comparison drawn for transgender men alone), and transgender people continue to face barriers to transition-related services.

Even when transgender individuals can access health care, there is a remarkable lack of medical expertise related to transition services and basic health care for transgender people (Grant et al., 2011). Medical school curricula have very little, if any, representation of lesbian, gay, bisexual, and transgender (LGBT) health in the classroom (Obedin-Maliver et al., 2011). A common mistaken belief of the medical community is that trans patients are seen nearly exclusively by endocrinologists or other specialists (Callahan, 2015). However, this is not the case; primary care needs to be attainable and meet the general needs of transgender individuals (Callahan, 2015).

Although many health care professions abide by a code of ethics, health care workers may have an unconscious bias that influences their practice, including the care they deliver to patients (Foglia & Fredriksen-Goldsen, 2014; Kattari & Hasche, 2016). A national survey of 1,711 transgender men found that 40% experienced discrimination from a health care provider

(Shires & Jaffee, 2015). In another study, 69% of transgender men reported that their identity "created a problem for them when going for a physical" (Kenagy & Bostwick, 2005, p. 63). Half of transgender participants in a national survey reported having to educate their providers about transgender experience (Grant et al., 2011). Ultimately, this stigma leads to a fear of seeking services for many trans individuals, even compared to their LGB peers (Fredriksen-Goldsen at al., 2013). Particularly for transgender populations, a distrust in health care providers, coupled with a lack of health care access cause trans people to fulfill their medical needs outside of certified medical institutions. One study mentions that 71% of transgender men have reported injecting hormones without formal medical supervision (Poteat, German, & Kerrigan, 2013). Nonetheless, few studies have utilized a population-based sample of trans men in comparison to cisgender adults regarding access to health care, including likelihood of having a regular personal doctor, being able to afford health care costs, and having health insurance.

Trans Men's Engagement in Preventive Health Behaviors

The Centers for Disease Control and Prevention (CDC, 2017) maintain that eating a balanced diet, being physically active, and engaging in preventive health behaviors (i.e. recommended health screenings throughout the life course) are the hallmarks of a healthy lifestyle and can help prevent or delay onset of illness. Yet, individuals in the U.S. use preventive services at around half the recommended rate, and the likelihood of using those services is further lessened when individuals are subject to social, economic, or environmental disadvantages (CDC, 2017). As mentioned previously, transgender individuals face an array of structural barriers to obtaining health care more often than the general population (Bradford, Reisner, Honnold, & Xavier, 2013; Lombardi, 2009). The literature illustrates the complex, and often negative, relationship that trans individuals may have with the institutions of medicine.

Based on the structural barriers trans individuals often face, they may be wary to engage with health care institutions and/or possibly feel the need to take measures to manage their health on their own. Therefore, trans adults' engagement in preventive health practices cannot be fully understood without first acknowledging those concerns.

There are a number of areas of preventive health in which little to no research has looked at transgender men's behaviors compared to cisgender adults, including frequency of regular physical exams, HIV testing, receiving blood cholesterol screening, engaging in exercise, and receiving a yearly flu shot. While a systematic review has suggested that HIV is less prevalent among transgender men than transgender women (Herbst et al., 2008), a multinational study of trans men who have sex with men (MSM) found that they tend to have less access to HIV testing than cisgender MSM (Scheim et al., 2016). Further, experiencing health care provider stigma was related to lower access to HIV testing (Scheim et al., 2016). Additional knowledge regarding transgender men's engagement in preventive health behaviors and care will be necessary to understand their health risks and to develop interventions that may increase engagement in the types of modifiable health behaviors that can address health disparities.

Major Gaps and Current Study

While barriers to health care are well-documented, there are few population-based studies comparing trans men's access to health care or engagement in preventive health behaviors to that of cisgender adults, the latter of whom are an important comparison group for documenting disparities. Additionally, there is a need for research that looks at the potential ways that sociodemographic factors may moderate any disparities in health care access or preventive health behaviors, indicating whether certain subgroups of trans men may be particularly in need of

interventions to increase access or encourage preventive health behaviors. The present study aims to address these gaps.

Our hypotheses are: (a) transgender men will have less access to health care (access to a personal doctor, affordable care, and health insurance) than cisgender individuals; (b) transgender men will engage in preventive health behaviors that involve interaction with health care providers (i.e., regular check-ups, blood cholesterol screening) as well as HIV testing less often than cisgender adults; however, they will engage in preventive health behaviors that do not necessarily require interaction with a health provider (i.e., flu shots, regular exercise) at similar rates; (c) access to health care and engagement in preventive health behaviors will be moderated by other factors related to health disparities (race/ethnicity, socioeconomic status, urban/rural residence) such that subgroups that often face barriers to health care and increased disparities will show similar patterns of disparity among trans men.

Methods

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual health survey led by the Centers for Disease Control and Prevention (CDC) and carried out by state health departments. The survey is designed to collect information about health risks and preventive health behaviors among the U.S. adult population through phone interviews (landline and cellphone; CDC, 2013). The BRFSS uses complex sampling procedures (disproportionate stratified sampling for landline phones, and random sampling for cell phones), and includes weighted data; when these factors are taken into account, the data are designed to be generalizable to the U.S. population of adults (CDC, 2013).

The standard core questions on the BRFSS must be asked by every state and typically focus on health conditions (heart attacks, asthma, diabetes, cancer, etc.), access to health care,

use of health care services, and demographic background. Other questions rotate from year-to-year or are optional (CDC, 2013). In 2015, 21 states (see *Figure 1*) used the optional Sexual Orientation and Gender Identity (SOGI) module, which included a question about transgender identity: *Do you consider yourself to be transgender?* If the respondent answered yes, they were then asked to indicate whether they were "male-to-female," "female-to-male," or "gender non-conforming." Since our analysis focuses on comparing trans male individuals to cisgender adults, our data come from the 21 states that ask this question on gender identity in their survey. This measure occurred near the end of the telephone survey and was separate from a binary measure of sex (male or female), which is typically designated by the interviewer based on participant voice and only asked "if necessary" (CDC, 2014, p. 15).

| Insert Figure 1 approximately here |

Measures

In addition to the gender identity question mentioned above (in which we compared those responding "female-to-male" transgender with those who were not transgender), we include several other survey questions in our analyses. We dropped any respondents who answered "don't know" to these measures, unless otherwise stated.

Dependent variables. Our first hypothesis focuses on whether transgender men had less access to health care compared to cisgender adults, which was studied using three dependent variables. The first was based on the question, *Do you have one person you think of as your personal doctor or health care provider?* Those who had at least one provider were coded as 0 (the reference group) and those with no provider as 1. The second outcome of interest was related to not having access to needed medical care due to cost: *Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?* Those who responded

"No" were coded as 0 and those who responded "Yes" were coded as 1. The third outcome in terms of access was related to health insurance: *Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, government plans such as Medicare, or Indian Health Service?* Those who responded as "Yes" were coded as 0, and those who responded "No" or "Don't know" were coded as 1.

Our second hypothesis looked at engagement in preventive health behavior outcomes. The first measure examined HIV testing: *Have you ever been tested for HIV?* Those who had been tested were coded as 1, and those who had not been tested were coded as 0. The second measure captured time since last checkup: *About how long has it been since you last visited a doctor for a routine checkup?* Responses included: "Within past year" (coded as 1), "Within past two years (one year but less than two years ago)" (2), "Within past five years (2 years but less than 5 years ago)" (3), "Five or more years ago" (4), and "Never" (5). The next measure examined blood cholesterol screening: *Blood cholesterol is a fatty substance found in the blood. Have you EVER had your blood cholesterol checked?* Those who had been tested were coded as 1, and those who had not were coded as 0. The fourth outcome measure focused on exercise: *During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?* Those who had exercised were coded as 1, while those who had not were coded as 0. Finally, we examined whether respondents reported receiving a flu vaccine: *During the past 12 months, have you had either a flu shot or a flu vaccine that was sprayed in your nose?* Those who had were coded as 1, and those who had not received a vaccine were coded as 0.

Control variables. We included control variables that tend to be related to health care access and engagement in preventive health behaviors in our multivariate models. Our first

control variable, annual household income, was recoded into four intervals, ranging from "Less than $25,000" (coded as 1) to "$75,000 or more" (coded as 4). Because the income measure could have different consequences by household size, we incorporated a variable capturing household size by summing two questions that asked for the total number of children and adults in the household. Educational attainment was based on the question, *What is the highest grade or year of school you completed?* We recoded this to be a dichotomous variable, where 1 = a high school diploma/GED or less, and 0 = at least some college. Metropolitan residence was based on one of the weighting variables created by the CDC within the dataset to indicate whether respondents lived in a metropolitan statistical area as determined by federal government definitions. We recoded this variable to be dichotomous, with 0 = living in a city or a suburb of a metropolitan statistical area, and 1= not living in a metropolitan statistical area (rural). Current age was captured in 5-year intervals, ranging from 18-24 (coded as 1) to 80 and older (coded as 13). We chose to capture race/ethnicity as a dichotomous variable due to the small cell sizes that would result in our model matrices if we used more than two categories. Since those who were Hispanic, Latinx,[i] or of Spanish origin (weighted estimate of 13.2% of all adults, 31.9% among transgender men) were the largest minority group, we created a dichotomous variable for which 1 = Hispanic, Latinx, or of Spanish origin, and 0 = not Hispanic, Latinx, or of Spanish origin.

Additional control variables were added to the blood cholesterol testing models due to the relationship between risks for cardiovascular disease and recommendations for blood cholesterol screening. These included dichotomous variables for: (a) being a current or former smoker, (b) ever being told that one had diabetes (not including gestational diabetes), (c) currently being in the overweight BMI category (BMI > 25), and (d) whether one had exercised in the past month (measured identically as the exercise outcome variable).

Interaction terms. To examine whether outcomes for transgender men were moderated by either ethnicity, socioeconomic status, or urban/rural residence, we created several interaction terms. These included interactions between FTM identity and (a) Hispanic/Latinx identity, (b) household income, (c) college education, and (d) rural residence.

Statistical Analyses

The BRFSS dataset was downloaded from the CDC website and analyzed using SPSS version 24 with the complex samples add-on. We used chi-square tests to examine bivariate relationships between FTM gender identity and the outcome variables of interest related to health care access and preventive health behaviors. For our multivariate models, we conducted complex samples logistic regression.

Results

Sample

Our analyses focused on the 21 states including the SOGI module, comparing those respondents who said they were female-to-male transgender (weighted estimate 0.2%, unweighted n = 237) with those who were not transgender (unweighted n = 163,685). We removed transgender women and gender non-conforming respondents from our analyses. Table 1 includes descriptive statistics for our sample by gender identity as well as prevalence rates of each outcome measure related to health care access and preventive health behaviors. As can be seen from this table, only five outcome measures of interest showed statistically significant chi-square results by gender identity: having a personal doctor or health care provider, facing a financial barrier to seeking medical care when needed in the past year, having health insurance, receiving a blood cholesterol test, and engaging in physical activity in the past month. These outcome variables were thus selected for further exploration in multivariate models. Whether an

individual had ever been tested for HIV or received a flu shot in the past year, and the length of time since last routine checkup, were not significantly different between trans men and cisgender adults.

| Insert Table 1 approximately here |

Hypothesis 1: Access to Health Care by Gender Identity

Our first hypothesis is that transgender men would report less access to health care than cisgender adults. Chi square tests (Table 1) indicate that before controlling for related factors, there are significant differences in access to a personal doctor, financial barriers to needed medical care, and health insurance coverage, with transgender men having less access across all three items. We further explored these outcome measures through our multivariate logistic regression models (Table 2).

| Insert Table 2 approximately here |

Access to a personal doctor. There were no statistically significant differences found for FTM identity and access to a personal doctor once adding control variables to our model; all control variables were statistically significant (see Table 2).

Financial barriers to needed medical care. No statistically significant differences were found between FTM and cisgender individuals related to having a financial barrier to obtaining medical care when needed, after controlling for sociodemographics (see Table 2).

Health insurance coverage. There was a marginal difference between FTM and cisgender individuals' health care coverage after adding control variables ($p < .10$; AOR = 2.13, see Table 2).

Hypothesis 2: Preventive Health Behaviors by Gender Identity

Our second hypothesis is that transgender men would engage in preventive health behaviors that involve going to a doctor's office (routine check-ups, blood cholesterol screening) and HIV testing less often than cisgender adults, but engage in behaviors that do not require interaction with the health care providers (flu shots, exercise) at similar rates. As mentioned earlier, initial chi square tests did not indicate significant differences by gender identity for routine check-ups or HIV testing (contrary to our hypothesis) or getting flu shots (in line with our hypothesis). There were statistically significant differences by gender identity for blood cholesterol screening and engagement in exercise, so these two behaviors are further explored in multivariate models.

Blood cholesterol screening. After accounting for our control variables, including risk factors for cardiovascular disease, no statistically significant differences were found between FTM and cisgender individuals having their blood cholesterol checked; the controls of income, college education, metropolitan status, age, diabetes, overweight/obese, and exercise were statistically significant (see Table 3).

| Insert Table 3 approximately here |

Exercise. No statistically significant differences were found between FTM and cisgender individuals' physical activity after controlling for sociodemographic variables (see Table 2).

Hypothesis 3: Moderation by Other Identities Related to Health Disparities

Our third hypothesis is that access to health care and engagement in preventive health behaviors for transgender men would be moderated by other factors related to health disparities—specifically, being Hispanic/Latinx, having lower income, having less than a college education, and living in a rural area. We constructed these interaction terms for each of the models (personal doctor, financial barrier to health care, health insurance coverage, blood

cholesterol screening, and exercise); due to small cell sizes, we tested all models other than the personal doctor model for results with and without the Hispanic*FTM interaction, though this did not greatly change results for other variables. Contrary to our hypothesis, none of the interaction terms were significant for the models related to financial barriers to health care, health insurance coverage, or engagement in exercise (not displayed). However, some significant interactions occurred for the models examining access to a personal doctor and blood cholesterol screening.

Personal doctor. The interaction of Rural*FTM had a significant relationship with having a personal doctor. FTM individuals living in a rural area were almost 9 times less likely to have a personal doctor than FTM individuals living in an urban area (see Table 4).

| Insert Table 4 approximately here |

Blood cholesterol screening. The interactions of College Education*FTM and Rural*FTM were significant in relationship to blood cholesterol screening. FTM individuals with a high school diploma or less were 89% more likely to have had their blood cholesterol checked than FTM individuals with some college education, a pattern that is different from our hypothesis. FTM individuals living in rural areas were almost 9 times less likely than those living in urban or suburban areas to have had their blood cholesterol checked, even after controlling for factors related to cardiovascular disease risk (see Table 3).

Discussion

Our study aimed to shed light on an understudied population (transgender men) and their access to health care and engagement in preventive health behaviors compared to cisgender adults, as well as how sociodemographic factors may moderate existing disparities. The results of this study indicate that transgender men have less access to health care – whether measured as

having access to a personal doctor, affordable care, or health insurance coverage – than cisgender adults. However, these differences are no longer statistically significant when controlling for other factors that tend to impact health care access, such as income, age, ethnicity, and rural residence. This result suggests that health care providers who wish to increase access to care for transgender populations should utilize intersectional strategies that work to combat income and racial inequalities, such as those we found for Hispanic, Latinx, or Spanish origin populations compared to non-Hispanic populations. Such intersectional strategies include, but are not limited to, offering sliding scale fees for lower income adults and intentionally hiring bi- and multi-lingual providers and medical staff who know the needs of local ethnic communities.

In terms of engagement in preventive health behaviors, transgender men reported less frequent engagement in some behaviors, such as blood cholesterol screening, than cisgender adults, though these differences became statistically insignificant after controlling for other factors. Trans men received check-ups and HIV tests, as well as flu shots, at similar rates as cisgender adults. Such findings are promising and in contrast to other studies of HIV testing specifically among trans MSM (see Scheim et al., 2016) and demonstrate that transgender men are accessing some services, including those that may require interaction with a doctor. While the present study indicates similar rates of HIV testing among trans men and cisgender adults, the BRFSS does not include measures important to measuring HIV risk, such as sexual behavior or intravenous drug use. Because of this, further investigation into these risk behaviors and related HIV testing behaviors among population-based samples of trans men is important.

Transgender men did not engage in exercise as often as cisgender adults, a finding that was not necessarily expected. We theorize that gyms – a frequent setting for exercise – could pose similar distress or fear of discrimination for trans men as public restrooms, including access

to gender-specific locker rooms (Seelman et al., 2012). As physical activity and exercise facilities are body-centric, this could play a role in one's decision to partake in, at least, *public* displays of physical activity if they feel their bodies are under inspection by others. This finding deserves further investigation, particularly since our measure of exercise did not specify whether activities were done alone or in front of others. Nonetheless, differences in exercise by gender identity did not occur when controlling for other factors such as income, college education, and age. One possible explanation for this finding is the positive relationship that tends to exist between socioeconomic status and physical activity (Pampel, Krueger, & Denney, 2010).

Our third hypothesis was that transgender men's access to health care and engagement in preventive health behaviors would be moderated by other variables—specifically, ethnicity, socioeconomic status, and rural residence. For several of our models, including financial barriers to health care, health insurance coverage, or engagement in exercise, we found no significant moderators. However, transgender men living in rural areas were nearly 9 times *less likely* than transgender men in urban areas to say they have someone they consider to be a personal doctor. This finding emphasizes the difficulty that trans men may have in accessing a trans competent medical provider outside of major cities. Mogul-Adlin (2015) also found geographical proximity to urban centers to be a barrier to care. Thus, there may be a critical need for outreach efforts for increasing trans people's access to health care in rural areas, as well as a need for training health care providers in these regions on trans competency.

Receiving a blood cholesterol screening was moderated by a few factors. Trans men with less than a college education were 89% *more likely* to say they have had their blood cholesterol checked than trans men with at least some college education, a result that was different than our expectation. Additionally, trans men in rural areas were almost nine times less likely than those

in urban or suburban areas to have had their blood cholesterol checked. Our findings indicate that there are differences in testing behaviors by educational level and rurality of transgender men, which could perhaps be tied to whether men with these different backgrounds are using testosterone therapy and are being advised to check their cholesterol. Some medical research on cholesterol and trans men has indicated a connection between injectable testosterone and increased cholesterol levels (Fernandez & Tannock, 2016; Goodrum, 2014; Ott, Aust, Promberger, Huber, & Kaufmann, 2011), though no studies have shown a link between changes in cholesterol for trans men and consequent cardiovascular health problems (Goddrum, 2014). The latest Standards of Care indicate that there can be possible affects to cholesterol from masculinizing hormone therapy, but transdermal administration of hormones does not seem to have an impact on cholesterol (WPATH, 2011). One recent study (Wultsch et al. 2015) found no change in cholesterol acceptor capacity among trans men after at least six months of testosterone therapy. Thus, there is some uncertainty about the relationship between hormone therapy and cholesterol changes. Additional research can help uncover the relationship between testosterone therapy and cholesterol as well as why certain subgroups of trans men are less often getting their cholesterol checked. It is worth noting that the BRFSS data do not provide information about whether respondents used testosterone therapy; thus, it is unclear as to whether some of the moderations by education and rurality may be a function of hormone therapy usage.

Implications for Social Work

Gender and sexual minorities are often conceptualized as a monolithic “LGBT” community. Consequently, the health care needs of transgender men are inappropriately generalized to be the same as for the rest of the LGBT community (Institute of Medicine, 2011). Research and education regarding transgender men should be more attuned to the specific needs

of this subgroup rather than lumped into the LGBT moniker. Transgender education is lagging in social work programs (Shires & Jaffee, 2015), and this needs to be improved.

Social workers have a great opportunity to advocate for transgender clients, especially as many social workers work in health care settings alongside other medical health providers. One way this could manifest is through increasing the awareness of social workers regarding local resources geared toward transgender individuals. Additionally, with increased knowledge of the health care barriers transgender individuals face, social workers can develop ways to help these individuals navigate use of Medicare, Medicaid, or the Affordable Care Act health care marketplaces, as well as the state-specific policies specific to medical transition, if applicable.

When trans-affirming care or other similar resources are not available, social workers can and should still play a role as an advocate for their trans clients by becoming knowledgeable about transgender health needs and ways of affirming this population. Some of the protective factors that make a difference for reducing transgender men's health disparities include resilience, family support, peer support, identity pride, social acceptance, and decreased gender-based prejudice (Bockting et al. 2013; Grant et al. 2011; Lombardi 2010). Efforts at transgender cultural competency, such as using a patient's correct pronouns, can have large effects on engagement in care (Shipherd, Green, & Abramovitz, 2010). With increased awareness of the health care issues trans individuals face, social workers are uniquely situated to provide furthered support for transgender individuals, even when institutional support may be lacking.

Trainings on cultural competency are one important strategy for raising awareness among social workers (Kattari & Hasche 2015), though training must not stop there. Schools of social work, including those in rural areas where access to transgender-competent care is difficult, can ensure that their curricula include content about the barriers to adequate trans health care and

strategies for challenging discrimination and stigma and promoting resilience. Social workers have many opportunities to offer affirmation and overall socioemotional support to transgender clients – whether the client is questioning their gender identity, seeking medical and/or legal transition, navigating health insurance policies, or seeking for support otherwise. Licensed clinical social workers play a particularly important role for trans clients, as these professionals can diagnose gender dysphoria and provide documentation for helping trans individuals access medical treatment and make changes to identity documents (WPATH, 2011). Gender expression within the transgender community is evolving and can be complex (Bockting et al., 2004), so the field of social work must evolve and progress service delivery with this community, with careful and respectful attention to the nuanced complexities of trans people.

Limitations and Suggestions for Future Research

While the present study offers some unique contributions to the knowledge base, including the use of a population-based dataset that allowed for focused analysis on the subpopulation of transgender men, there are notable limitations. First, this study only examined health care access and preventive health efforts, not any specific health conditions. There is a need for longitudinal research with this population to study the connection between health care access, preventive health behaviors, and long-term health outcomes. This would help shed light on health disparities in this population across the life course, as well as needed changes in health care policy at the state and federal levels. Additionally, while this study offered findings specific to transgender men, future research is needed to better understand the healthcare experiences and health disparities impacting transgender women, as well as non-binary individuals.

The BRFSS utilizes general questions about health care access and conditions. While use of this survey is a step forward in our ability to examine this understudied population, further

research is necessary for a more nuanced understanding of the health of trans men. This is particularly true regarding the degree of competency and inclusiveness among providers and how that can affect health care access and health outcomes, as profoundly negative experiences with health care and health care providers among trans patients are well-documented (Bockting et al. 2004; Callahan 2015, Grant et al. 2011, Kattari & Hasche, 2015, Kosenko et al., 2013). Some medical settings have heeded the call by implementing more inclusive medical record and intake form processes, and this practice has the potential to improve experiences of trans and/or non-binary patients (Deutsch & Buchholz, 2015; Mogul-Adlin, 2015).

Overall, increased awareness of transgender men and their experiences in health care and engagement in health promoting behaviors is necessary to better understand and appropriately serve this population's medical needs, particularly given how little attention has been given to this subpopulation of trans adults. This is the case regardless of whether those needs differ from cisgender adults, as an overall lack of access to trans-affirming care is well-documented. Medical providers, researchers, and administrators can and should also call upon the extensive research related to transgender individuals within the social sciences and/or related interdisciplinary fields, as transgender identities have been historically misunderstood within medicine due to essentialist approaches to gender and pathologizing of gender non-conformity (Mogul-Adlin, 2015). The field of social work is uniquely situated to help bridge that gap through its interaction with both clients and the health care system while recognizing the diversity within and among transgender and gender non-conforming populations. As such, social workers need to stay abreast of developments related to transgender and gender non-conforming people in order to advocate for transforming our healthcare system to be more "just" for clients of all genders.

References

Bockting, W. O., Knudson, G., Goldberg, J. M. (2006). Counseling and mental health care for transgender adults and loved ones. *International Journal of Transgenderism*, 9(3–4), 35–82. https://doi.org/10.1300/J485v09n03_03

Bockting, W. O., Miner, M. H., Swinburne Romine, R. E., Hamilton, A., & Coleman, E. (2013). Stigma, mental health, and resilience in an online sample of the US transgender population. *American Journal of Public Health*, *103*(5), 943-951. https://doi.org/10.2105/AJPH.2013.301241

Bockting, W. O., Robinson, B., Benner, A., & Scheltema, K. (2004). Patient satisfaction with transgender health services. *Journal of Sex & Marital Therapy*, *30*(4), 277–294. https://doi.org/10.1080/00926230490422467

Bradford, J., Reisner, S. L., Honnold, J. A., & Xavier, J. (2013). Experiences of transgender-related discrimination and implications for health: Results from the Virginia transgender health initiative study. *American Journal of Public Health, 103*(10), 1820-1829. doi:10.2105/AJPH.2012.300796

Callahan, E. J. (2015). Opening the door to transgender care. *Journal of General Internal Medicine, 30*(6), 706-707. https://doi.org/10.1007/s11606-015-3255-0

Centers for Disease Control and Prevention. (2013). The BRFSS data user guide. Retrieved from http://cdc.gov/brfss

Centers for Disease Control and Prevention. (2014, December 29). 2015 Behavioral Risk Factor Surveillance System Questionnaire. Retrieved from http://cdc.gov/brfss

Centers for Disease Control and Prevention. (2017, September 15). *Preventive Health Care*. Retrieved from https://www.cdc.gov/healthcommunication/toolstemplates/

entertainmented/tips/PreventiveHealth.html

Clements-Nolle, K., Marx, R., & Katz, M. (2006). Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization. *Journal of Homosexuality*, 51(3), 53–69. https://doi.org/10.1300/J082v51n03_04

Conron, K. J., Scott, G., Stowell, G. S., & Landers, S. J. (2012). Transgender health in Massachusetts: Results from a household probability sample of adults. *American Journal of Public Health*, 102(1), 118–122. https://doi.org/10.2105/AJPH.2011.300315

Deutsch, M. & Buchholz, D. (2015). Electronic health records and transgender patients--Practical recommendations for the collection of gender identity data. *Journal of General Internal Medicine, 30*(6), 843-847. https://doi.org/10.1007/s11606-014-3148-7

Factor, R., & Rothblum, E. (2008). Exploring gender identity and community among three groups of transgender individuals in the United States: MTFs, FTMs, and genderqueers. *Health Sociology Review*, *17*(3), 235-253. https://doi.org/10.5172/hesr.451.17.3.235

Fernandez, J. D. & Tannock, L. R. (2016). Metabolic Effects of Hormone Therapy in Transgender Patients. *Endocrinology Practice, 22*(4), 383-388. https://doi.org/10.4158/EP15950.OR

Flores, A. R., Herman, J. L., Gates, G. J., & Brown, T. N. T. (2016). *How many adults identify as transgender in the United States?* Los Angeles, CA. Retrieved from http://williamsinstitute.law.ucla.edu/wp-content/uploads/How-Many-Adults-Identify-as-Transgender-in-the-United-States.pdf

Foglia, M. B., & Fredriksen-Goldsen, K. I. (2014). Health disparities among LGBT older adults and the role of nonconscious bias. *Hastings Center Report*, *44*(s4). https://doi.org/10.1002/hast.369

Fredriksen-Goldsen, K. I., Cook-Daniels, L., Kim, H. J., Erosheva, E. A., Emlet, C. A., Hoy-Ellis, C. P., Goldsen, J., & Muraco, A. (2013). Physical and mental health of transgender older adults: An at-risk and underserved population. *The Gerontologist*, *54*(3), 488-500. https://doi.org/10.1093/geront/gnt021

Gehi, P. S., & Arkles, G. (2007). Unraveling injustice: Race and class impact of Medicaid exclusions of transition-related health care for transgender people. *Sexuality Research & Social Policy*, *4*(4), 7. https://doi.org/10.1525/srsp.2007.4.4.7

Goodrum, B. A. (2014). The effects of long-term testosterone use on lipid-related cardiovascular risk factors among FTM patients. *International Journal of Transgenderism* 15: 164-172. https://doi.org/10.1080/15532739.2014.995261

Grant, J. M., Mottet, L., Tanis, J. E., Harrison, J., Herman, J., & Keisling, M. (2011). *Injustice at every turn: A report of the National Transgender Discrimination Survey*. National Center for Transgender Equality.

Herbst, J. H., Jacobs, E. D., Finlayson, T. J., McKleroy, V. S., Neumann, M. S., & Crepaz, N. (2008). Estimating HIV prevalence and risk behaviors of transgender persons in the United States: A systematic review. *AIDS and Behavior*, *12*(1), 1–17. http://doi.org/10.1007/s10461-007-9299-3

Herman, J. L. (2013). Gendered restrooms and minority stress: The public regulation of gender and its impact on transgender people's lives. *Journal of Public Management & Social Policy*, 65–80.

James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). *The Report of the 2015 U.S. Transgender Survey*. Washington, DC: National Center for Transgender Equality.

Kattari, S. K., & Hasche, L. (2015). Differences across age groups in transgender and gender non-conforming people's experiences of health care discrimination, harassment, and victimization. *Journal of Aging and Health*, 28(2), 285-306. https://doi.org/10.1177/0898264315590228

Kenagy, G. P., & Bostwick, W. B. (2005). Health and social service needs of transgender people in Chicago. *International Journal of Transgenderism*, *8*(2/3), 57-66. https://doi.org/10.1300/J485v08n02_06

Kosenko, K., Rintamaki, L., Raney, S., Maness, K. (2013). Transgender patient perceptions of stigma in health care contexts (Brief report). *Medical Care,* 51(9), 819–822. https://doi.org/10.1097/MLR.0b013e31829fa90d

Lombardi, E. (2009). Varieties of transgender/transsexual lives and their relationship with transphobia. *Journal of Homosexuality, 56*(8), 977-992. doi:10.1080/00918360903275393

Lombardi, E. (2010). Transgender health: a review and guidance for future research—proceedings from the Summer Institute at the Center for Research on Health and Sexual Orientation, University of Pittsburgh. *International Journal of Transgenderism*, *12*(4), 211-229. https://doi.org/10.1080/15532739.2010.544232

MacCarthy, S., Reisner, S.L., Nunn, A., Perez-Brumer, A., Operatrio, D. (2015). The time is now: Attention increases to transgender health in the United States but scientific knowledge gaps remain. *LGBT Health, 2*(4), 287-291. doi: 10.1089/lgbt.2014.0073

Mogul-Adlin, H. (2015). Unanticipated: Healthcare experiences of gender nonbinary patients and suggestions for inclusive care. (Public Health Theses). Yale University, New Haven, CT.

Movement Advancement Project. (2017, June 23). Healthcare laws and policies: Medicaid coverage for transition-related care. Retrieved from http://lgbtmap.org

Newfield, E., Hart, S., Dibble, S., & Kohler, L. (2006). Female-to-male transgender quality of life. *Quality of Life Research*, 15, 1447–1457. doi:10.1007/s11136-006-0002-3

Obedin-Maliver, J. G., ES; Stewart, L; White, W; Tran, E; Brenman, S; Wells, M; Fetterman, DM; Garcia, G; & Lunn, MR. (2011). Lesbian, gay, bisexual, and transgender-related content in undergraduate medical education. *Journal of the American Medical Association, 306*(9), 971-977. https://doi.org/10.1001/jama.2011.1255

Ott, J., Aust, S., Promberger, R., Huber, J. C., & Kaufmann, U. (2011). Cross-sex hormone therapy alters the serum lipid profile: A retrospective cohort study in 169 transsexuals. *Journal of Sexual Medicine*, *8*(8), 2361–2369. http://doi.org/10.1111/j.1743-6109.2011.02311.x

Pampel, F. C., Krueger, P. M., & Denney, J. T. (2010). Socioeconomic disparities in health behaviors. *Annual Review of Sociology* 36: 349-370. https://doi.org/10.1146/annurev.soc.012809.102529

Peitzmeier, S., Gardner, I., Weinand, J., Corbet, A., & Acevedo, K. (2016). Health impact of chest binding among transgender adults: a community-engaged, cross-sectional study. *Culture, Health, and Society*, 19(1), 64–75. https://doi.org/10.1080/13691058.2016.1191675

Poteat, T., German, D., & Kerrigan, D. (2013). Managing uncertainty: a grounded theory of stigma in transgender health care encounters. *Social Science & Medicine*, 84, 22–29. https://doi.org/10.1016/j.socscimed.2013.02.019

Reisner, S. L., White, J. M., Bradford, J. B., & Mimiaga, M. J. (2014). Transgender health disparities: Comparing full cohort and nested matched-pair study designs in a community health center. *LGBT health*, *1*(3), 177-184. https://doi.org/10.1089/lgbt.2014.0009

Scheim, A. I., Santos, G., Arreola, S., Makofane, K., Do, T. D., Hebert, P., … Ayala, G. (2016). Inequities in access to HIV prevention services for transgender men: Results of a global survey of men who have sex with men. *Journal of the International AIDS Society*, *19*(Suppl 2), 52–58. http://doi.org/10.1136/sextrans-2015-052386

Seelman, K. L., Walls, N. E., Costello, K. Steffens, K., Inselman, K., Montague-Asp, H., & Colorado Trans on Campus Coalition. (2012). *Invisibilities, uncertainties, and unexpected surprises: The experiences of transgender and gender non-conforming students, staff, and faculty at universities & colleges in Colorado.* Retrieved from http://portfolio.du.edu/ewalls2/

Shipherd, J. C., Green, K. E., & Abramovitz, S. (2010). Transgender clients: Identifying and minimizing barriers to mental health treatment. *Journal of Gay & Lesbian Mental Health*, *14*(2), 94-108. https://doi.org/10.1080/19359701003622875

Shires, D. A., & Jaffee, K. (2015). Factors associated with health care discrimination experiences among a national sample of female-to-male transgender individuals. *Health & social work*, *40*(2), 134-141. https://doi.org/10.1093/hsw/hlv025

World Professional Association for Transgender Health (WPATH) (2011). *Standards of care for the health of transsexual, transgender, and gender nonconforming people* (Version 7). Retrieved from http://wpath.org

West, Isaac. (2010). PISSAR's critically queer and disabled politics. *Communication and Critical/Cultural Studies*, 7(2), 156–175. https://doi.org/10.1080/14791421003759174

zamantakis, a., Miller, J. F., Chace, A. (2017, Spring). TRANSforming Higher Education. *National Association of Student Personnel Administrators Gender & Sexuality Knowledge Community White Paper*. pp. 8–11. Retrieved from: https://www.naspa.org/images/uploads/events/2017SPRINGNASPAGSKCWhitePaper.pdf

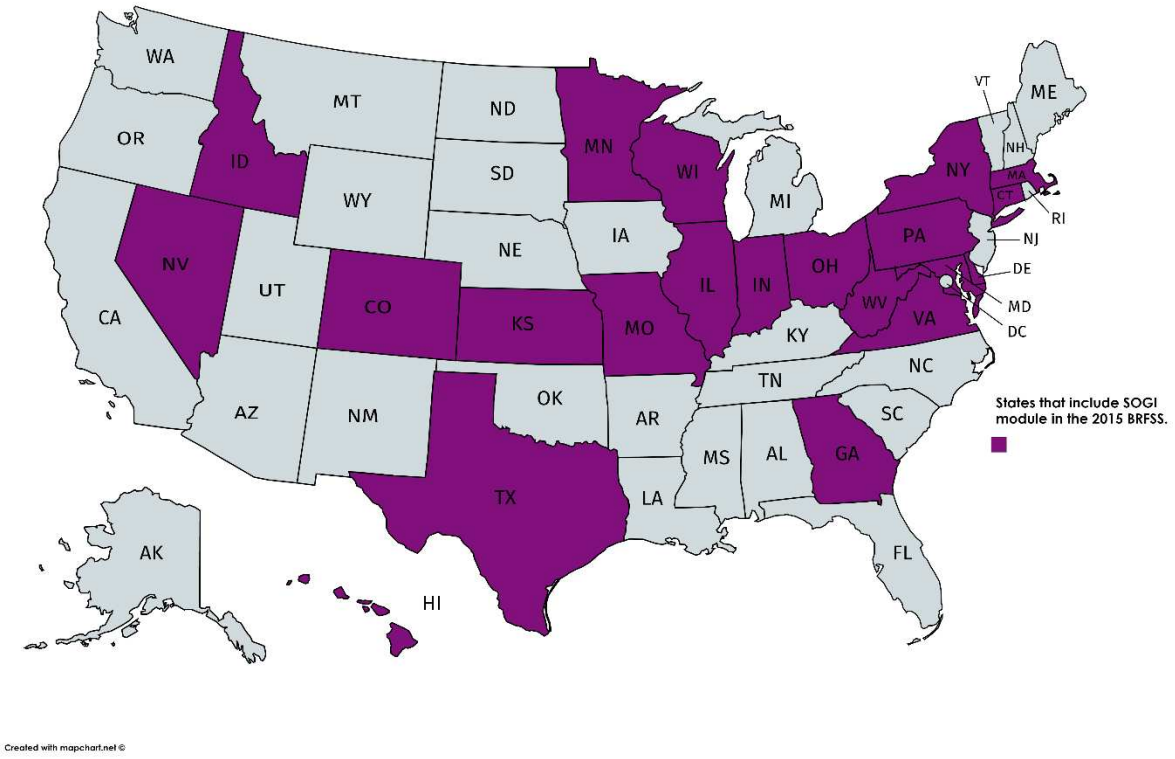

Figure 1. Map of U.S. states that participated in the 2015 BRFSS and included the SOGI module.

Table 1

Transgender Men Compared to Cisgender Adults: Sociodemographic Characteristics, Health Care Access, and Preventive Health Behaviors of 2015 BRFSS Respondents (Weighted Estimates)

	Cisgender (N = 163,685)	Transgender Men (N = 237)	Pearson χ^2
Total	99.8%	0.2%	
Age, years			58.8*
18-29	18.9%	21.6%	
30-39	16.1%	30.4%	
40-49	16.2%	18.3%	
50-59	19.3%	9.8%	
60-69	15.6%	8.1%	
70-79	9.2%	9%	
80 and up	4.7%	2.8%	
Race/ethnicity			106.4**
White only, non-Hispanic	68.9%	49.5%	
Hispanic	13.1%	31.9%	
Black only, non-Hispanic	11.8%	8.2%	
Other race, non-Hispanic	4.8%	10.2%	
Multiracial, non-Hispanic	1.4%	0.3%	
Educational Attainment			211.41***
Less than Grade 12	13.1%	41.2%	
Grade 12 or GED	29%	33.3%	
Some college/tech school	30.8%	13.6%	
College grad	27.1%	11.8%	
Location of residence			0.09
City or suburb	82.6%	83.4%	
Rural area	17.4%	16.6%	
Household Income per Year			49.07*
<$25,000	25.9%	36.9%	
$25,000-$49,999	24.4%	36.4%	
$50k - $74,999	15.7%	4.9%	
$75,000 or more	34.1%	21.8%	
Health Insurance			175.41***
Yes	88.5%	62.5%	
No or don't know	11.5%	37.5%	
Personal Doctor			26.82*
Yes, one or more	80.8%	68.2%	

No	19.2%	31.8%	
Financial Barriers			37.24*
Yes, needed a doctor but couldn't access due to cost	12.3%	24.5%	
None	87.7%	75.5%	
HIV test			0.08
Tested for HIV	36.6%	35.7%	
Never tested	63.4%	64.3%	
Last routine check-up			6.83
Within past year	71.1%	64.8%	
Within past 2 years	12.7%	14.2%	
Within past 5 years	8%	10.5%	
5 or more years ago	7.1%	8.4%	
Never	1.1%	2.2%	
Blood cholesterol test			44.4**
Yes	82.7%	67.2%	
No	17.3%	32.8%	
Exercise, other than job			59.23**
Yes, in past month	72.7%	51.7%	
No	27.3%	48.3%	
Flu shot in past 12 months			5.18
Yes	41.7%	34.9%	
No	58.3%	65.1%	

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

Complex Samples Logistic Regression with Control Variables: Access to a Personal Doctor, Financial Barriers to Needed Medical Care, Health Insurance Coverage, and Engagement in Exercise

	Access to a Personal Doctor (*N* = 81,963)		Financial Barriers (*N* = 82,035)		Health Insurance Coverage (*N* = 82,124)		Exercise (*N* = 82,055)	
	B (SE)	AOR	B (SE)	AOR	B (SE)	AOR	B (SE)	AOR
Constant	0.10 (0.13)		-0.25 (0.13)		-0.56 (0.17)***		-0.93 (0.09)***	
FTM transgender	0.63 (0.52)	1.93	-0.20 (0.58)	0.82	0.76 (0.46)^	2.13	0.58 (0.42)	1.79
Household income	-0.24 (0.02)***	0.79	-0.69 (0.03)***	0.50	-0.59 (0.04)***	.55	-0.28 (0.02)***	0.76
Household size	-0.05 (0.02)*	0.95	0.11 (0.02)***	1.12	0.08 (0.03)**	1.08	0.04 (0.01)**	1.04
College education	0.17 (0.06)**	1.19	0.03 (0.06)	1.03	0.46 (0.08)***	1.59	0.42 (0.04)***	1.52
Metropolitan status	0.21 (0.06)***	1.23	0.05 (0.07)	1.05	0.25 (0.09)**	1.29	0.05 (0.04)	1.05
Age	-0.23 (0.01)***	0.80	-0.11 (0.01)***	0.89	-0.21 (0.01)***	0.81	0.05 (0.01)***	1.06
Hispanic	0.60 (0.10)***	1.82	0.55 (0.09)***	1.72	1.06 (0.12)***	2.89	0.07 (0.07)	1.07

Note. SE = standard error. AOR = adjusted odds ratio. FTM = female-to-male. ^ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

*Blood Cholesterol Screening: Complex Samples Logistic Regression with Control Variables and with Interaction Terms (*N = *77,432)*

	Model with Controls		Model with Interaction Terms	
	B (SE)	AOR	B (SE)	AOR
Constant	0.90 (0.17)***		0.90 (0.17)***	
FTM transgender	0.29 (0.75)	1.34	0.82 (1.84)	2.26
Household income	-0.30 (0.03)***	0.74	-0.30 (0.03)***	0.74
Household size	0.03 (0.02)	1.03	0.03 (0.02)	1.03
College education	0.73 (0.08)***	2.07	0.74 (0.08)***	2.09
Metropolitan status	0.22 (0.08)**	1.25	0.22 (0.08)**	1.24
Age	-0.36 (0.01)***	0.70	-0.36 (0.01)***	0.70
Hispanic	0.11 (0.12)	1.12	0.11 (0.12)	1.12
Smoker	-0.01 (0.07)	1.00	-0.01 (0.07)	0.99
Diabetes	-0.98 (0.16)***	0.38	-0.98 (0.16)***	0.38
Overweight/obese	-0.52 (0.07)***	0.59	-0.52 (0.07)***	0.59
Exercise	-0.33 (0.07)***	0.72	-0.33 (0.07)***	0.72
Interaction Terms				
Household income x FTM			0.01 (0.48)	1.01
College education x FTM			-2.24 (1.10)*	0.11
Rural x FTM			2.18 (1.02)*	8.84

Note. SE = standard error. AOR = adjusted odds ratio. FTM = female-to-male. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

*Access to a Personal Doctor: Complex Samples Logistic Regression with Interaction Terms (*N = *81,963)*

	B (SE)	AOR
Constant	0.11 (0.13)	
FTM transgender	-1.32 (1.33)	0.27
Household income	-0.24 (0.02)***	0.78
Household size	-0.05 (0.02)*	0.95
College education	0.17 (0.06)**	1.19
Metropolitan status	0.20 (0.06)***	1.22
Age	-0.23 (0.01)***	0.80
Hispanic	0.60 (0.10)***	1.81
Hispanic x FTM	2.45 (1.35)^	11.57
Household income x FTM	0.58 (0.30)^	1.79
College education x FTM	-0.97 (0.89)	0.38
Rural x FTM	2.19 (0.88)*	8.90

Note. SE = standard error. AOR = adjusted odds ratio. FTM = female-to-male.
^ p < .10. *p < .05. **p < .01. ***p < .001.

[i] *Latinx* is a gender-neutral term used instead of the masculine term *Latino* that is meant to encompass all people of Latin American descent with gender identities across the gender spectrum, including those who are transgender or gender non-conforming.